

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:
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PCT
RECOMMANDÉ
INVITATION TO PAY ADDITIONAL FEES
AANGEKEND
(PCT Article 17(3)(a) and Rule 40.1)

Applicant's or agent's file reference
E-1837/03

International application No.
PCT/IT 03/00568

Applicant

SO.L.E.S. - SOCIETA' LAVORI EDILI E SERBATOI ...

Date of mailing
(day/month/year)

26/05/2004

PAYMENT DUE

within **30** ~~XXX~~ days
from the above date of mailing

International filing date
(day/month/year)

24/09/2003

1. This International Searching Authority

(i) considers that there are 5 (number of) inventions claimed in the international application covered by the claims indicated ~~XXX~~ on the extra sheet:

and it considers that the international application does not comply with the requirements of unity of invention (Rules 13.1, 13.2 and 13.3) for the reasons indicated ~~XXX~~ on the extra sheet:

(ii) ☒ has carried out a partial international search (see Annex) ☐ will establish the international search report on those parts of the international application which relate to the invention first mentioned in claims Nos.:
see annex

(iii) will establish the international search report on the other parts of the international application only if, and to the extent to which, additional fees are paid


2. The applicant is hereby **invited**, within the time limit indicated above, to pay the amount indicated below:

EUR 1.550,00 x 4 = EUR 6.200,00
Fee per additional invention number of additional inventions total amount of additional fees

Or, _____ x _____ = _____

The applicant is informed that, according to Rule 40.2(c), **the payment of any additional fee may be made under protest**, i.e., a reasoned statement to the effect that the international application complies with the requirement of unity of invention or that the amount of the required additional fee is excessive.

3. ☐ Claim(s) Nos. _____ have been found to be unsearchable under Article 17(2)(b) because of defects under Article 17(2)(a) and therefore have not been included with any invention.

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Authorized officer

Jacqueline van Ekelenburg

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-93,113

A Method of constructing a pile foundation and a metal pile, whereby the transverse dimensions of the head of the pile are greater than the hole through which it is inserted

2. claims: 94-110,114

A Method of constructing a pile foundation and a metal pile, whereby the head of the pile is pointed

3. claims: 111,112

A Method of constructing a pile foundation, whereby use is made of an auxiliary pile

4. claim: 115

A metal pile comprising a rod with variable thickness and/or shape

5. claims: 116-118

A metal pile comprising a rod and a jacket of cement around the rod

The application relates to a plurality of inventions, or groups of inventions. They were divided into 5 groups as defined above.

US-A-5234287 discloses a method of constructing a pile foundation, whereby a metal pile is inserted through a hole in the foundation structure and the driven pile is axially connected to the foundation structure. The use of an existing foundation structure falls within the terms of the preamble of claim 1 "build on the ground a foundation structure", cf. description p.6, 1.1-4 "... foundation structure 1 may be built either entirely, or from an existing structure in which, for example, holes are formed."

The differences over the prior art of the following claims are considered to be the special technical features within the meaning of Rule 13(2) PCT.

- The contribution of claim 1 over US-A-5234287 is that the transverse dimensions of the main head are greater than those of the hole when driving the main head into the ground(, solving the problem of impairing the capacity of the foundation structure with a larger hole in said

structure).

- The contribution of claim 94 over the same prior art is that the main head is pointed(, solving the problem of decreasing the resistance while driving the pile).
- The contribution of claim 111 over the same prior art is driving and removing an auxiliary pile once the foundation is completed(, solving the problem of temporary support for the foundation structure).
- The contribution of claim 115 over the same prior art is that the rod differs in thickness and/or shape along the longitudinal axis of the pile(, solving the problem of design / price related issues.) (*)
- The contribution of claim 116 over the same prior art is that the rod is surrounded by a jacket of cement and the transverse dimension of the jacket differing along the longitudinal axis of the pile(, solving the problem of enlarging the bearing capacity of the pile). (*)

(*) These respective contributions are design choices, which are independent from the size of the hole (the thickness and/or shape of the rod and the use of a jacket of cement can be selected without restriction for a certain hole which is larger than the main head, contrary to the special technical features of claim 1). Therefore the special technical features of claims 115 and 116 do not correspond to the same solution, nor are these claims directed to the same problem underlying claim 1.

In conclusion, no common special technical features could be identified in any of the independent claims 1,94,111,115 and 116. Furthermore, these claims are directed at unrelated problems, therefore none of the special technical features are corresponding. Consequently, the groups of claims are not linked so as to form a single general inventive concept and the criteria set out in Rule 13(1) PCT are not fulfilled.

- ### C. DOCUMENTS CONSIDERED TO BE RELEVANT

☒ Patent family members are listed in annex.

"&" document member of the same patent family

Patent Family Annex

Information on patent family members

International Application No

PCT/IT 03/00568

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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US 5234287	A	10-08-1993	NONE	
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US 3786641	A	22-01-1974	NONE	
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